Safety

One of the goals of the *2001 Regional Transportation Plan* is to improve safety for all users of the transportation system — drivers and passengers, transit users, bicyclists and pedestrians.

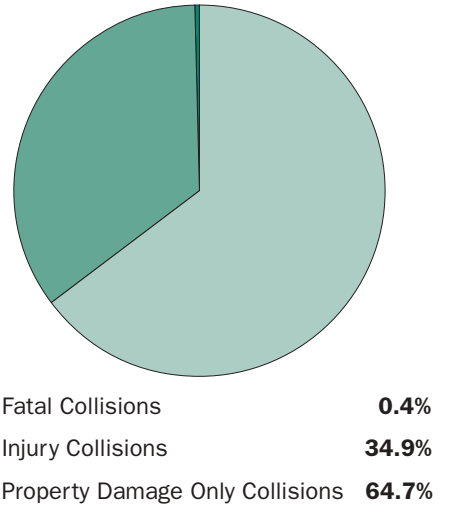
This report uses statistics on injuries and fatalities resulting from collisions to gauge safety. The most widely used safety information on automobile collisions with other cars, bicyclists and pedestrians comes from data assembled by the California Highway Patrol. Transit operators report injuries and fatalities occurring on their systems to the Federal Transit Administration.

Slight Rise in Collisions in 2002; Slight Drop in Those Involving Injuries or Fatalities

The bad news is that the total number of motor vehicle collisions in the Bay Area rose in 2002, to 106,530 (from 103,990 the year before). The good news is that the entire net increase was accounted for by collisions resulting in property damage only, which as a group comprise almost two-thirds (64.7 percent) of all motor vehicle collisions (see pie chart). Collisions involving either injuries or fatalities were down by 3 percent in 2002, the second straight annual decline in this key measure of transportation safety. The number of injury-and-fatality collisions is at its lowest point in the last five years.

Several factors influence the number of injury and fatal collisions in the Bay Area: driver education and behavior, vehicle safety features, roadway conditions, and, of course, the number of miles driven (on both freeways and local roadways). With respect to this last point, studies show that although freeway driving accounts for

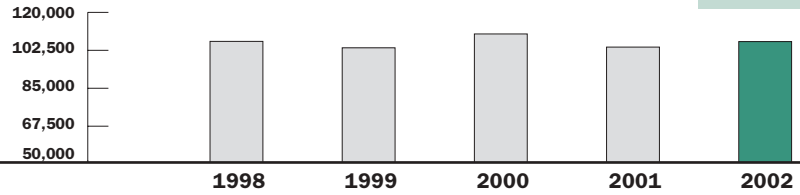
Motor Vehicle Collisions in the Bay Area In 2002: Fatal, Injury, Property Damage



Source: California Highway Patrol
106,530 collisions = 100%

Injury and Fatal Collisions on Bay Area Roadways, 1998–2002

	Collisions					Percent Change	
	1998	1999	2000	2001	2002	2001–2002	1998–2002
Injury Collisions	39,027	37,913	39,609	38,322	37,167	–3%	–5%
Fatal Collisions	433	405	444	449	451	0%	+4%
Total Injury and Fatal Collisions	**39,460**	**38,318**	**40,053**	**38,771**	**37,618**	**–3%**	**–5%**
Property Damage Only Collisions	67,164	65,339	70,001	65,219	68,912	+6%	+3%
Total Collisions	**106,624**	**103,657**	**110,054**	**103,990**	**106,530**	**+2%**	**0%**

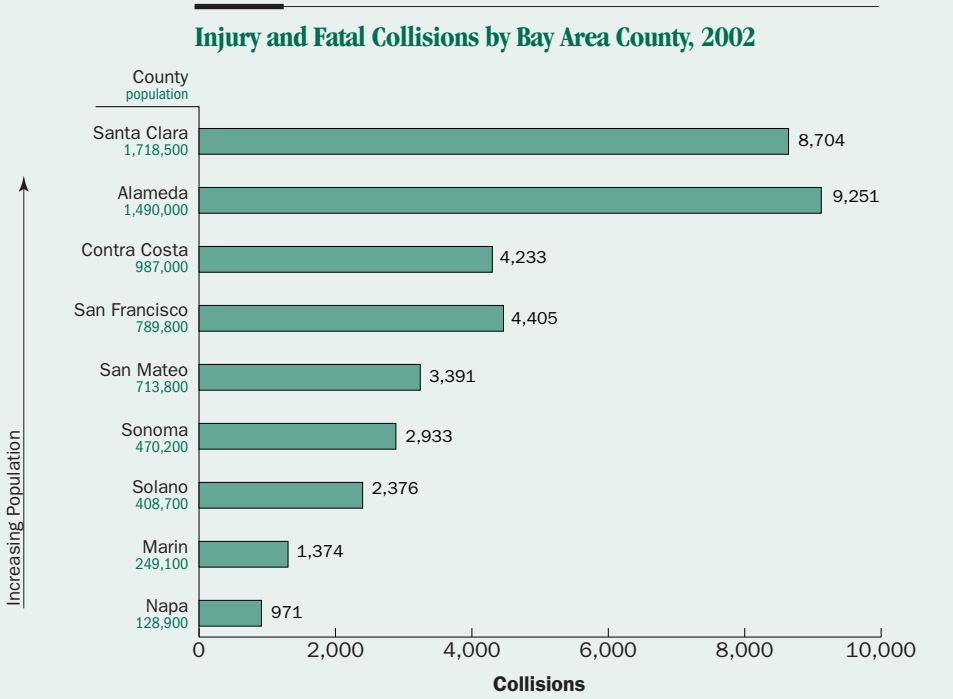


Source: California Highway Patrol (see note on page 57)

approximately 60 percent of all vehicle miles driven in the Bay Area, only about one-quarter of all collisions occur on freeways.

In 2002, 37,618 motor vehicle collisions resulted in injuries or fatalities on Bay Area roads and freeways. (Motor vehicle refers to all motorized conveyances that use the roads — private automobiles, commercial trucks, buses, motorcycles, etc.) As can be seen in the table on page 32, the number of injury and fatal collisions fluctuated within a fairly narrow range from year to year during the recent five-year period from 1998 to 2002. The same holds true for the individual components of the measure — injury collisions and fatal collisions. It is therefore difficult to determine whether changes in the data indicate a trend (as might appear to be the case in the two-year decline in injury and fatal collisions), or whether they are merely normal variations in a relatively stable phenomenon.

A Closer Look – We can get a rough idea of the geographical distribution of the injury and fatal collisions that occurred in 2002 by breaking them out by county of occurrence. In general, a given county's share of collisions correlates closely with its size, as measured by population (see bar graph). Alameda County and San Francisco both exhibit a collision rate higher than their population rank. This may be due to their status as "crossroads" counties, where a significant portion of travel is by residents of other areas.



Sources: California Highway Patrol (see note on page 57); California Department of Finance

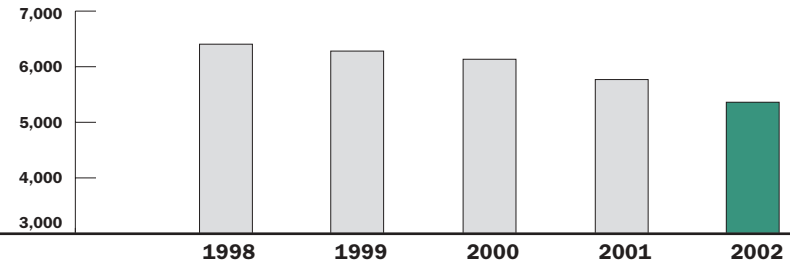
Collisions Involving Pedestrians and Cyclists Decline in 2002, Continuing Recent Downward Trend

Although increasing attention is being paid to the dangers faced by pedestrians and bicyclists on Bay Area roadways, data collected by the California Highway Patrol shows a downward trend in the number of motor vehicle collisions that involve injury or fatality to these two groups of travelers over the past five years. In 2002, 5,361 pedestrians and cyclists were injured or killed in collisions with motor vehicles. That is 408 fewer people than were similarly affected in 2001, a 7 percent decrease (see table below). Since 1998, the number of walkers and cyclists involved in injury or fatality collisions has dropped by more than 1,000, or 16 percent.

While this is encouraging news, the absolute numbers involved are rather small, and year-to-year fluctuations — or even a five-year trend — can be magnified when viewed in percentage terms. It also should be noted that the statistics presented here include only motor vehicle collisions that are reported to law enforcement authorities. Collisions involving pedestrians and bicyclists that are not reported could be significant in number and would make these totals higher. Based only on these statistics, then, it might be premature to conclude that the Bay Area is becoming a safer place for pedestrians and cyclists. But the downward trend gives reason for optimism.

Injury and Fatality Motor Vehicle Collisions Involving Pedestrians or Bicyclists, 1998–2002

	Collisions					Percent Change	
	1998	1999	2000	2001	2002	2001–2002	1998–2002
Collisions Involving Pedestrians							
Injury Collisions	3,258	3,099	3,173	3,080	2,910	–6%	–11%
Fatal Collisions	125	97	134	103	111	+8%	–11%
Subtotal	3,383	3,196	3,307	3,183	3,021	–5%	–11%
Collisions Involving Bicyclists							
Injury Collisions	3,004	3,066	2,810	2,566	2,321	–10%	–23%
Fatal Collisions	18	19	17	20	19	–5%	+6%
Subtotal	3,022	3,085	2,827	2,586	2,340	–10%	–23%
Total Involving Bicyclists or Pedestrians	**6,405**	**6,281**	**6,134**	**5,769**	**5,361**	**–7%**	**–16%**



Source: California Highway Patrol (see note on page 57)

The 5,361 collisions involving pedestrians and cyclists comprised 14 percent of the 37,618 injury-and-fatality motor vehicle collisions in the Bay Area in 2002 (see page 32).

A Closer Look – Areas where lots of people walk or bike are likely to have greater numbers of collisions involving pedestrians and bicyclists. In the absence of better data on the amount of bicycling and walking in the Bay Area, we can look for patterns based on population by jurisdiction. In the tables at right, we see a generally strong correlation between population rank and rank in pedestrian- or bicycle-related collisions — with some notable exceptions. Berkeley, which ranks 14th in population, ranks 4th in the number of collisions involving pedestrians and 3rd in those involving bicyclists. This comports with the relatively higher level of walking and biking in this university-centered, environmentally aware community. Meanwhile, Palo Alto, Mountain View and unincorporated Marin County all rank higher in the number of bicycle-involved collisions than they do in population. The presence in Palo Alto of thousands of bike-riding Stanford University students, and the popularity of Marin County as a recreational bicycling destination may help to account for the statistics in those locations, but the explanation for Mountain View's inclusion in this list is less clear. (For a complete list of pedestrian- and bicyclist-involved collisions by jurisdiction, see Appendix C on page 67.)

Injury and Fatal Motor Vehicle Collisions Involving Pedestrians And Bicyclists by Bay Area Jurisdiction, 2002

PEDESTRIANS

2002 Rank	Jurisdiction	Total 2002	Annual Average 1998–2002	Rank in Population
1	San Francisco	877	934	2
2	Oakland	317	295	3
3	San Jose	280	361	1
4	Berkeley	127	113	14
5	Hayward	75	78	8
6	Fremont	63	68	4
7	Richmond	62	54	17
8	Santa Rosa	56	57	6
9	Vallejo	51	48	12
10	Daly City	47	39	13

BICYCLISTS

2002 Rank	Jurisdiction	Total 2002	Annual Average 1998–2002	Rank in Population
1	San Francisco	309	379	2
2	San Jose	265	328	1
3	Berkeley	130	143	14
4	Oakland	130	167	3
5	Fremont	66	165	4
	Palo Alto	66	78	34
7	Santa Rosa	63	83	6
8	Hayward	50	58	8
9	Unincorporated Alameda	47	38	9
10	Mountain View	43	50	27
	Unincorporated Marin	43	36	28

Sources: California Highway Patrol (see note on page 57); U.S. Census Bureau

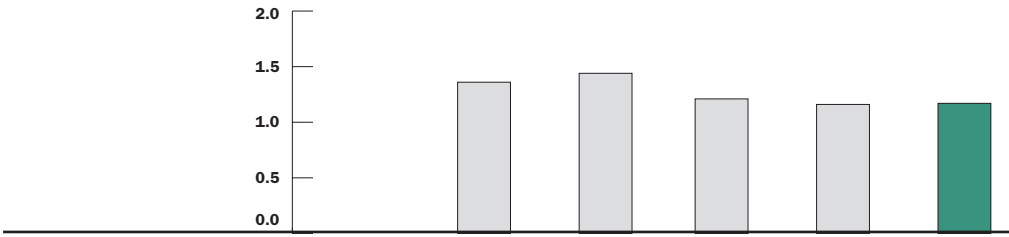
Positive Trend in Transit Safety Through 2000-01

In 2002, the Federal Transit Administration (FTA) shifted to a new reporting system that requires transit operators to submit more frequent and more comprehensive reports for transit safety and security incidents. While the new requirements promise ultimately to improve the quality of information, the safety and security statistics collected by FTA during the transition period appear to be incomplete. As a result, data on transit-related injuries and fatalities for fiscal year 2001-02 have not been included in this report. Instead, data for fiscal years 1996-97 through 2000-01 are presented here, taken from the 2002 State of the System Report. *The discussion that follows also is reprinted from last year's report.*

The number of injuries or fatalities involving transit vehicles in the Bay Area fluctuated within a narrow range over the most recent five-year period, even as the number of miles traveled on transit rose steadily. The result was a noticeable improvement in the per-mile safety record of Bay Area transit operators in the fiscal year 1996-97 to 2000-01 time frame covered by this report (see table and graph below). This trend has held steady over the last couple of years, despite a slight increase in the total number of injury-or-fatality incidents. In 2000-01, for instance, the

Rate of Injuries and Fatalities on Bay Area Transit, Fiscal Years 1996-97–2000-01

						Percent Change	
	1996-97	1997-98	1998-99	1999-2000	2000-01	FY 1999-2000–2000-01	FY 1996-1997–2000-01
Injuries	3,164	3,455	3,014	3,057	3,240	+6%	+2%
Fatalities	15	20	21	31	33	+6%	+120%
Total Injuries and Fatalities	**3,179**	**3,475**	**3,035**	**3,088**	**3,273**	**+6%**	**+3%**
Passenger Miles (Millions)	2,331	2,416	2,509	2,670	2,807	+5%	+20%
Rate of Injuries and Fatalities Per Million Passenger Miles	**1.36**	**1.44**	**1.21**	**1.16**	**1.17**	**+1%**	**–14%**



Source: Federal Transit Administration

number of injuries and fatalities increased by 185, or 6 percent. But because the total number of miles traveled by passengers also increased (by 5 percent) the rate of injuries and fatalities increased only minimally (to 1.17 injuries/fatalities per million passenger miles, up from 1.16 in fiscal year 1999-2000).

However, the increasing number of fatalities involving Bay Area transit vehicles stands out in sharp relief (although the numbers are relatively small considering the size of the regional transit system). Included in this category are deaths on rail tracks judged to be suicides, and there have been a number of these incidents in the Bay Area in recent years.

The statistics reported in this section reflect injuries and fatalities resulting from a wide range of safety incidents — from people who slip and fall while boarding a bus to those injured or killed in collisions with transit vehicles. Included in the statistics are incidents involving transit passengers, employees and others.